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PROGRESSIVE EXERCISES IN TYPOGRAPHY

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PROGRESSIVE
EXERCISES IN TYPOGRAPHY

A TEXT FOR THE SCHOOL PRINT SHOP
AND THE APPRENTICE PRINTER

BY

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THE HAYTOL SERIES OF INDUSTRIAL TEXTS
PREPARED UNDER THE SUPERVISION OF AND
EDITED BY FRANK E. MATHEWSON

THE TAYLOR-HOLDEN COMPANY
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FOREWORD

THIS book of exercises has been prepared to aid in the instruction of apprentices and pupils in printing. Each exercise is worded as simply as possible in order that it may be easily understood by the inexperienced printer. They may be followed as written, or similar compositions, which may be needed, may be substituted. It is suggested that the lessons be used as an outline and practical jobs of printing substituted in the order in which they would regularly come in the outline.

The course, as planned, leads the beginner from the very simplest exercise, step by step, through properly succeeding work which will give him experience in the essentials of printing. It is expected that he will follow the jobs through and perform each successive operation to the completed job and the final distribution of the type.

It would be well to have each exercise set in a different manner, using various series of type and varying measures.

A notebook or scrapbook should be kept which will contain samples of work done by all members of the class or shop, together with work collected from other printing establishments.

The notebook should contain the following:

- 1 All *notes* in ink.
- 2 *Complete notes* on *information* given by instructor in class period.
- 3 *Proof marks*.
- 4 *Copy* and *Layout* for *each* printed production.
- 5 *First proof*, showing corrections made by student *without* aid of instructor.
- 6 *Second proof*, with student's proof corrections and those of instructor.
- 7 *Third proof*, showing instructor's OK.
- 8 *Sample* of the completed job.
- 9 *Estimate of time* required to do the job *before* it is begun.
- 10 *Actual time taken* to do the job reckoned *after* it is finished.
- 11 Each student is expected to carry each job through from composition, layout, lock-up, make-ready, cutting stock, and running press, to the completed product. He should learn the cost of production and cost of stock used, as in a commercial shop, and make his own estimate of the cost of job.

- 12 Questions in written reviews and answers.
- 13 Spelling lessons. (Common words in Printing.)
- 14 Final test-paper answers.
- 15 Following list of printed productions, collected by student from outside sources:
 - 3 Programs.
 - 2 Programs in two colors.
 - 3 Menus.
 - 2 Menus in two colors.
 - 2 Advertising blotters.
 - 3 Four-page folders.
 - 1 Eight-page folder.
 - 1 Sixteen-page booklet.
 - 2 Examples of type justified with cuts.
 - 2 Examples of tabular work or rule composition.
 - 5 Daily newspaper advertisements.
 - 5 Weekly newspaper advertisements.
 - 5 Personal cards.
 - 5 Business cards.
 - 10 Envelope corners.
 - 10 Letterheads.
 - 5 Tickets.
 - 3 Billheads.
 - 5 Motto cards.
 - 3 Two-color motto cards.
 - 5 Cover pages (type composition).
 - 5 Magazine advertisements.
 - 3 Single column newspaper headings.
 - 3 Double column newspaper headings.
 - 3 Three column newspaper headings.
 - 1 Full-page newspaper heading.
 - 2 Advertisements with border.
 - 2 Advertisements without border.
 - 2 Advertisements with cut.
 - 2 Advertisements without cut.

RULES FOR COMPOSITION

SPACING. Lines should be so spaced that the space between the words, paragraphs, and entire composition appears uniform when printed.

When the *common space* between the words is a 3-to-the-em space this space should be used throughout the composition. The same idea must be carried out if the en-quad or 4-to-the-em space or 5-to-the-em space is used.



5 em space



4 em space



Common space, 3 em space



en space or quad



em quad



2 em quad



3 em quad

Fig. 1. The relative sizes of spaces and quads of any point.

More space may be left between words where ascending, descending or long letters come together than between short letters.

Ascending letters: h, l, t, etc.

Descending letters: y, g, p, etc.

Long letters: f.

Short letters: a, c, e, etc.

In justifying a line, if the line does not quite fill the stick, replace the *common space* with the next size larger space.

If line is too long, and the word at the end of the line cannot be divided, decrease the space between all words in the line by replacing the spaces used with a smaller space.

When quads and spaces are used in justifying the line which is not all words, the spaces should be placed next to the words.

If line is too long, divide the last word according to the rules of division, (see page 14), and increase or decrease the space between the other words until the line is tight, but not so tight that it is difficult to force down the spaces.

Never put less than an em-quad on the end of a line of quads and spaces with words.

When the composition is set in all caps the common space should be the en-quad and no less. Composition is better wide-spaced than thin-spaced. Divided words should be avoided as much as possible. The words may be letter-spaced to insure even spacing. There should be no noticeable holes or lines of white space in the composition. This last rule applies to all type composition.

Bold face type should be wider *common spaced* than light face type.

The space on either side of a word of two letters should be less rather than more than that between the longer words.

Before each sentence within a paragraph place an em-quad.

The space after a comma may be less than that between the words.

Space out or increase the space between the words in a line that is hard to justify rather than reduce the space to get on another word.

A thin space may be put before a colon, semicolon, interrogation point, and exclamation point. In some type allowance is made for this space in these characters.

A wide spaced line should not be next to a thin spaced line.

LEADING. Leading is the process of spacing between lines. This is done by placing strips of metal between the lines of type to give them the proper amount of white space. Leads are made: 1-pt., 2-pts., 3-pts. (see page 24), thick and galleys (see page 24), which are composed of wood, and slugs (see page 24), composed of metal are 6-pts. or nonpareil, and 12-pts. or pica, in thickness. All leads, galleys, and slugs are cut in pica lengths and are used in spacing or leading. (See page 24).

The larger the type or wider the type measure the more leading the composition will stand.

When a composition is to be wide leded the spacing between the words should be wide.

Bold face type should be leded more than light face type.

A job set in all capitals should be wide leded.

Very small type should not be wide leded and especially so if set in a narrow measure.

* 1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0

News Case Upper

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
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1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0

California Job Case

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0

News Case Lower

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0

Yankee Job Case

Plate I. Plans of the most common type cases.

LETTER-SPACING. When a line comes out so that it must be wide spaced between the words to complete the line, the words may be letter-spaced. Copper or brass thin spaces may be used for this work

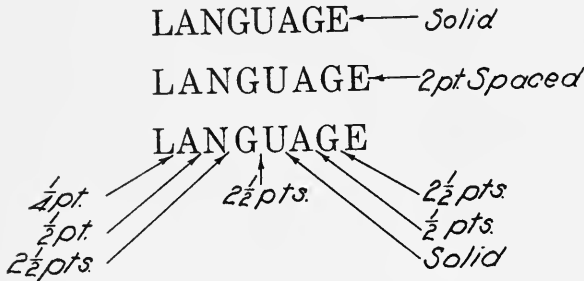


Fig. 2. The appearance of correct and incorrect letterspacing.

as well as cardboard. Bold face type may be letter-spaced more than light face. In a display line which is letter-spaced a rule above and below (see Figure No. 3), the rule will help hold it together. Great care must be taken in spacing all capital lines. (See Figure No. 2). The area of the white space between the letters should be uniform. Very short lines are often letter-spaced but wide lines rarely. Space between the words should not be greater than the space in the margin, and space between letters should be less than that between words.

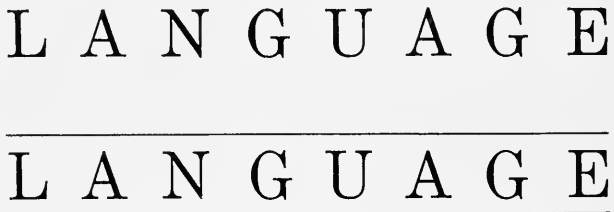


Fig. 3. The effect of rule placed above and below a word which has been widely letter-spaced.

PARAGRAPHING. The indention of a paragraph depends on the width of the measure.

An em-quad should be used for indenting paragraphs of matter set eighteen picas wide or less.

Between eighteen picas and thirty picas a 2-em quad should be used for the indention of paragraphs.

Above thirty picas a 3-em quad should be used.

The wider the measure the more the paragraph should be indented.

A large point type should be indented more than a small point type no matter what the width may be.

A paragraph should not end with a syllable of a word. The isolated appearance of part of a word on a line alone is not pleasing.

A paragraph should not end closer than an em-quad from the end of the line.

The proper ending for a paragraph is in the middle of the line.

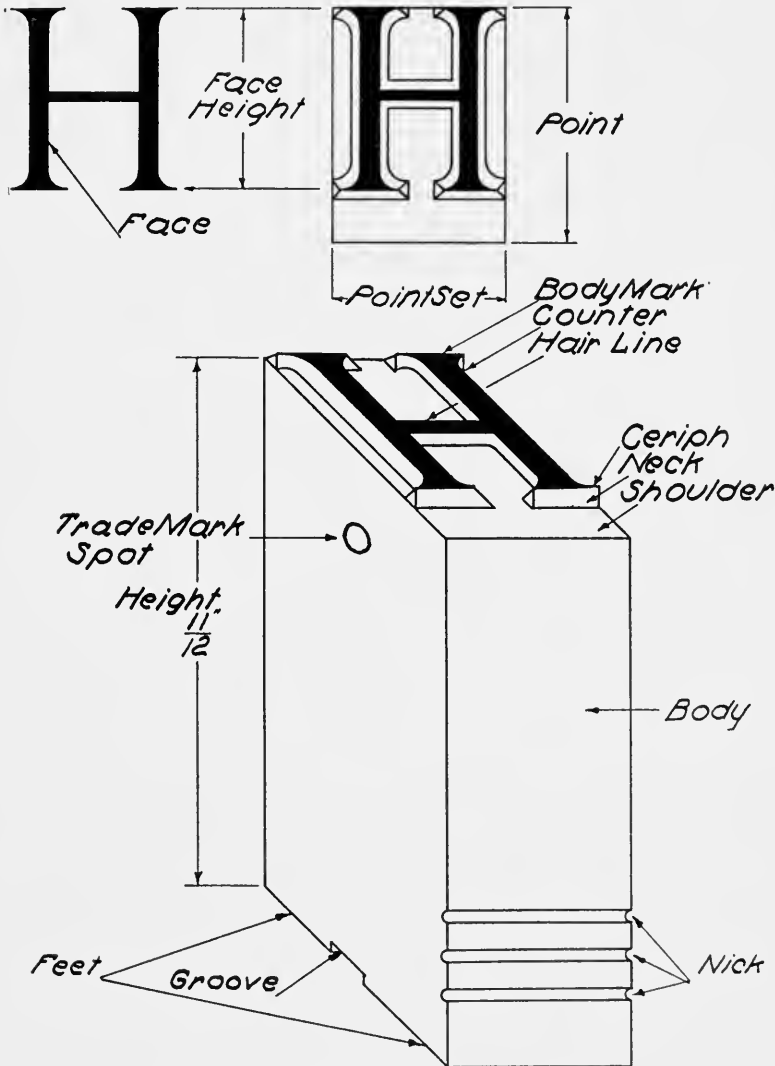


Fig. 4. Diagram of type showing all its parts.

DIVISION OF WORDS. Never divide a word at the end of the line unless it is absolutely necessary. The division of words in any case is disconcerting and often aggravating to the reader. To be compelled to carry in mind syllables of words from one line to the next is tiring and often breaks the thought connection of the reading matter.

Never divide a short word of two syllables.

Never divide words on the ends of two consecutive lines.

Do not divide a word by leaving two letters on one line and the balance of the word on the next line.

Space out the line instead of dividing the word whenever it is possible to do so.

Do not divide a word when large type is set in wide measure. It is difficult to read matter set in large type and especially when set all in capitals. Divided words also produce a pronounced ragged or uneven appearance at the right side of the composition which is very undesirable. If it is impossible to avoid the division of a word, it may be found possible to state the expression in different words which still preserve the same meaning.

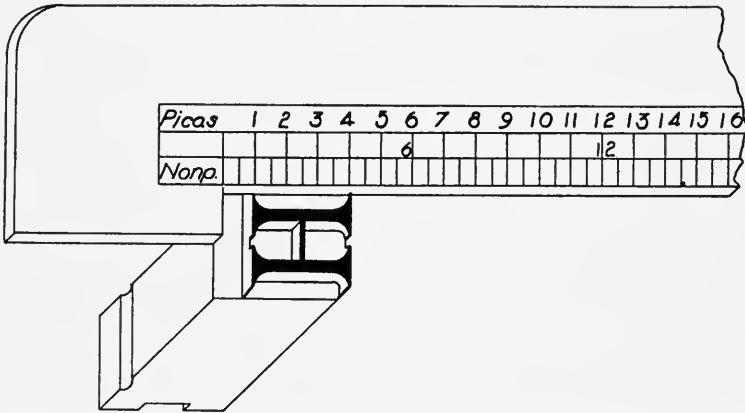


Fig. 5. This diagram is actual size. It shows the correct way to hold the type-gauge on the type to determine the point. This particular H measures exactly four picas. As one pica is made up of twelve points this H is 48-point type.

DETERMINING THE SIZE OF TYPE. In the distribution of “pi” as well as other type the young student is not always sure of the point-size of the type he has in hand. Place the hooked end of the type gauge against the nick side of the type and measure across the type,—multiply the picas it is wide by twelve or the nonpareils it is wide by six which will give the right point of the type. There are six points in a nonpareil; twelve points in a pica; and seventy-two points in an inch. (See Figure 5.)

HOW TO HOLD THE STICK

The proper way to hold the printer's stick when setting type is shown in Figure 6. It is always held in the left hand. The thumb should be placed firmly against the last piece of type placed in the stick. In picking up the type the compositor should see the letter he

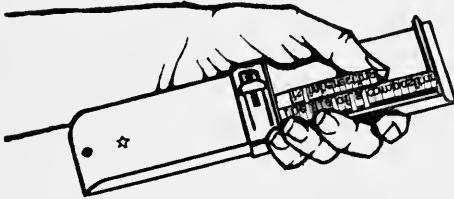


Fig. 6. Correct way to hold the stick in composition.

is about to get and pick it up in such a way that he will not have to turn it about in his fingers as he is placing it in the stick. This saves time and makes him a fast compositor.

All type is placed in the stick with the nick visible. In setting type it is well to let the stick hand move toward the box from which the letters are taken so that some of the distance traveled by the right hand may be lessened. In reading the type in the stick get the habit of holding it nick up and read from left to right. In this position the type is bottom side up which is the most natural way to see things in the negative.

HOW TO REMOVE THE TYPE FROM THE STICK

Grasp the type firmly after making sure that there is a lead or slug top and bottom. Place the thumbs at the top and first fingers at the bottom and second fingers on both sides of the type as shown in Figure 7. Press firmly on all sides and draw the type up towards

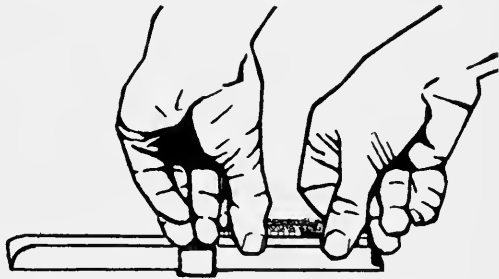


Fig. 7. How to place the fingers when beginning to remove type from the stick.

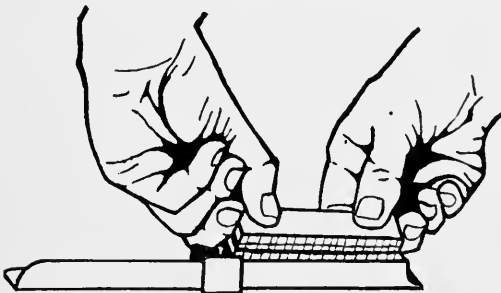


Fig. 8. Pinching the type and removing it from the stick.

you as shown in Figure 8, and place the head or beginning of the type composition against the closed end of the galley. It is well to practice the removal of dead type until one is competent to do this before trying to handle live matter.

HOLDING TYPE IN DISTRIBUTION

As shown in Figure 9, the type is supported on three sides. The thumb is opposite the second and third fingers and first finger supports the bottom of the type. The face of the type is towards the distributor and nicks should be up. In distributing type always take

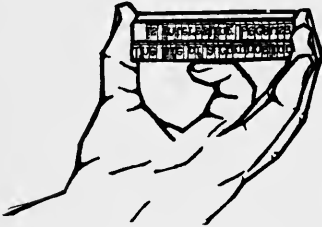


Fig. 9. Correct way to hold the type in distribution.

a whole word or words or full syllable of a word and spell the letters back into the boxes. Never get the habit of looking at the type face when placing the letters in the boxes. If large point type or type of a delicate or shaded face is being distributed the type should be carefully laid in the case and, better, it should be stood up.

Great care must be taken in returning the spaces. There are three sizes of spaces and four sizes of quads and *each has its particular box*. In the beginning take only three or four lines at a time. After a time when some skill has been attained in handling type more lines may be taken, and the weight of the type may be supported in the palm of the hand rather than on the first finger. The reason for having the first finger underneath is, that if the fingers should relax on the sides the type matter would not drop out at the bottom and also, because the second finger is longer than the first.

Great care must always be taken in distributing type matter containing more than one kind of type. Type fonts should not be mixed. This means that type of only one face as well as same point should be in the same case. There is no royal road to follow in learning to distinguish type faces. They are learned only through careful study of both type and printed matter. The nick of the type does not always determine the kind or font. Different type may have the same nick. Study the face characteristics of different type families and learn to distinguish them as easily as you would recognize a friend among strangers.

NOTES ON CARE OF TYPE. Before form is unlocked type should be very thoroughly cleaned with brush, gasoline, and cloth.

Be sure all wood is removed from type before it is washed with lye and water.

In distributing large type lay the type in carefully. Type will be nicked if dropped upon other type.

In distributing "pi," set up the type in the stick, then distribute.

Be careful not to drop leads or slugs on the floor. They will dent and bend easily. Stepping on them will ruin them.

EXERCISES IN PRINTING

The following exercises lead consecutively from straight composition through increasingly more difficult work which embodies the common operations of the composing room of any print shop.

The first exercise is in straight composition followed by other straight composition exercises. These are followed by a straight composition exercise using an initial letter, with several supplementary exercises. Next is an exercise showing and explaining the method of placing a border around type composition followed by several variations of the same problem.

It is suggested that the pupil set up his name and the date he begins the work on each exercise and place them at the beginning of the composition. Also print the date of the completion of the work.

After the first three simple straight composition exercises and the supplementary exercises for each, regular job exercises with explanatory illustrations follow.

These exercises exemplify the following common print shop projects:

Personal Cards	Programs
Business and Professional Cards	Menus
Tickets	Cover Pages
Letterheads	Posters and Placards
Envelope Corners	Tabular Compositions
Labels and Tags	Rule Compositions
Billheads and Statement-heads	Justification of Cuts and Pages
Dance Orders	Imposition

STRAIGHT COMPOSITION EXERCISES

EXERCISE ONE

STRAIGHT COMPOSITION. Before beginning this exercise read through and study it carefully with reference to the rules of composition and distribution on preceding pages.

The plan of the case should be in sight for reference in locating the type. Hold the stick in your left hand. Place the type in the stick with the right hand. Hold the type in place in the stick with the thumb against the nick. Between every word place a 3-to-the-em space or common space. When the sentence ends in the line—not at the end—it should be separated from the following sentence by an em-quad.

When the line is completed but does not quite fill the measure increase the space between the words by replacing the 3-to-the-em spaces with en-quads. If the line is too long, either divide the word, or decrease the space between all of the words, by changing the common spaces for 4- or 5-to-the-em spaces. Justify each line so that the proof will show even spacing. Spacing should be uniform throughout the entire composition. In ending the paragraph with quads and spaces, place the spaces next to the type—not on the end of the line.

If quads and spaces are placed indiscriminately together in justifying a line composed of words and spacings they will make trouble in distribution. If all of the quads are put together and the necessary spaces placed next to the type then the quads can be distributed without interference and the spaces returned with the type.

EXERCISE TWO

DISTRIBUTION. If there are no wood galleys in the composition the type may be wet slightly to facilitate distribution. Take about five lines in the left hand, hold it tightly and support on one side with the thumb and on the opposite side by the second finger and underneath by the first finger doubled up under the lead or rule that supports the type at the bottom. The nicks should be up and the face of the type towards you. Always take a whole word or words or full syllable of a word and spell the letters back into the boxes. Do not get the habit of looking at each letter as you distribute.

Watch the different sizes of spaces. Be sure you are working at the right case. Only poor workmen mix type fonts. Be sure you know which box contains the letter you are about to drop before you drop it. If any type should fall to the floor, pick it up before doing another thing. Type is ruined when stepped upon. All leads, galleys, rules, and metal furniture are returned to their proper cases in the process of distribution.

SUPPLEMENTARY EXERCISES

The following exercises are intended to supplement the preceding lesson. They are designed to strongly impress upon the pupil the proper uses of the various marks of punctuation and other facts which a young printer must know and at the same time give him practice at the case. He may not have been compelled to remember them before but now they are essential. The teacher should give different lessons to different members of his class, then, when completed, all of the pupils will be able to have a copy of each lesson. This is also a stage when the instructor may insert any other straight composition which he may want done. It is also suggested that the instructor give talks on the history and development of printing and its allied industries and each week this talk may be set up in type and printed by some pupil as straight matter composition exercise. This material may be distributed to the members of the class. Each pupil should keep a complete notebook of his copy with proofs and OK sheets together with copies of the completed jobs.

If this notebook is carefully kept it will be a source of much benefit in noting progress made in the work as well as a record of work done. It may aid in securing a position after the course is completed in school. When at work in the shop it has value as a reference book. The collection and comparison of printed material from all sources is one of the main helps to printers.

EXERCISE THREE

THE COMMA (,). When there is a break in the thought connection a comma is inserted. When, without the comma, the meaning is obscure, a comma is used. Two statements using the same verb in the same sentence are separated by commas. When words are grouped in pairs they are separated by commas. When nouns, verbs, adverbs, or adjectives, are used together in repetition they are separated by commas. In direct address the salutation is separated by a comma.

THE PERIOD (.). A statement is followed by a period. Abbreviations are followed by periods. A period separates the dollars from cents in figures. Whenever a period may be omitted without producing ambiguity it is better to do so.

THE COLON (:). In formal introduction and in salutations the colon is used. It is also used to separate hours from minutes; as 7:35. A colon serves as the fulcrum or balancing place of the component parts of a long, involved sentence. This sentence construction is not good and is rarely used.

PROOF MARKS

Period	⊙
Comma	,
Hyphen	-
Colon	:
Semicolon	;
Apostrophe	' √
Quotations	" / √
Em quadrat	□
One-em dash	—
Two-em parallel dash	=
Push down space	↓
Close up	∩
Less space	√ or √
Caret — left out, insert	^
Turn to proper position	9
Insert space	#
Move to left or to right [or]	[or]
Move up or move down	↖ or ↘
Transpose	tr
Let it stand	----- or <i>stet</i>
Dele-- take out	&
Broken letter	x
Paragraph	¶
No paragraph.	No. ¶
Wrong font	<i>wf.</i>
Equalize spacing	√ or eq. #
Capitals	≡ or caps
Small capitals	= or sc.
Lower-case	lc.
Straighten	≡
Superior or inferior	^o or _o
Italic	— or ital.
Roman	<i>rom.</i>
Brackets	[/]

How the Proof is Marked.] 8 pt ≡

d.c. It ~~does~~ not appear that the earliest printers had e
 any method of correcting errors before the form ✓✓
 was on the press. The learned ~~The learned~~ correctors ✓
 of the first two centuries of printing were c/s
 not proof-readers in our sense; they were rather i/c/s
 what we should term office editors. Their labors c/d
 were chiefly to see that the proof corresponded to
 the copy, but that the printed page was correct
 in its latinity ~~that the words were there~~, and that stat
 the sense was right. They cared but little about c/s
 orthography, bad letters, or purely printers' errors,
 and when the text seemed to them wrong they con-
 sulted fresh authorities or altered it on their own
 responsibility. Good proofs in the modern sense, s/
 were ~~not~~ possible until professional readers were
 employed, men who had first a printer's education,
 and then spent many years in the correction of proof.
 The orthography of English, which for the past
 century has under gone little change, was very
 fluctuating until after the publication of Johnson's
 Dictionary, and capitals, which have been used with
 considerable regularity for the past 80 years, were #
 previously used on the miss or hit plan. The ap-
 proach to regularity, so far as we have, may be
 attributed to the growth of a class of professional
 proof readers, and it is to them that we owe the
 correctness of modern printing. More errors have B
 been found in the Bible than in any other one work.
 For many generations it was frequently the case
 that Bibles were brought out stealthily, from fear
 of governmental interference. They were frequently
 printed from imperfect texts, and were often
 modified to meet the views of those who published
 them. The story is related that a certain woman
 in Germany who was the wife of a Printer, and had
 become disgusted with the continual assertions of
 the superiority of man over woman which she had
 heard, hurried into the composing room, while her
 husband was at supper, and altered a sentence in
 the Bible, which he was printing, so that it read
 Narr instead of Herr, thus making the verse read
 "And he shall be thy fool" instead of "and he shall
 be thy lord." The word not was omitted by Barker,
 the king's printer in England in 1632, in printing
 the seventh commandment. He was fined 3,000
 on this account. w.f. # lead p.c./who v/v v/v w.f./c#2

EXERCISE FOUR

THE SEMICOLON (;). When the members of a long involved sentence include phrases set off by commas, the semicolon keeps apart the most important members. When a period would make too pronounced a break in the reading matter a semicolon is used. When modifying phrases are used in a sentence they are separated by semicolons.

THE DASH (—). When there is an abrupt change in the thought a dash is used. When a pause will add emphasis to the expression a dash is used. When the same thought is expressed in a different manner to give effectiveness in several ways these expressions are separated by the dash. The dash is also used when dates are written together, as 1905-14.

THE HYPHEN (-). The hyphen connects compound words and is used when a word is divided at the end of a line.

COMPOUND WORDS. When words are used together which combine in making sense the hyphen is used in compounding the words. A solid compounded word sometimes is produced by much use; such as, baseball, railroad, etc. To preserve the meaning it is often necessary to compound; as, five-spotted dogs, or, five cent-stamps.

THE INTERROGATION (?). When a direct question is asked the interrogation is used. When an expression of doubt is intended an interrogation is placed nearest this expression and is enclosed in parentheses.

THE EXCLAMATION (!). When strong feeling, such as, grief, sorrow or anger are expressed, an exclamation point follows such a sentence. Interrogative and imperative sentences which express the same feeling are punctuated the same. When the feeling expressed is very strong, the sentence should end with an exclamation point.

PARAGRAPH MARK (¶). Wherever the writer of a MS. wishes a paragraph to begin he places a paragraph mark. Sometimes a paragraph mark is used by the printer in place of an indentation.

EXERCISE FIVE

PARENTHESES (). When an expression which is entirely foreign to the thought of the sentence is inserted for explanation it is enclosed in parentheses. When such expression finishes a paragraph or sentence the period follows the parenthesis.

BRACKETS AND BRACES [] { }. Brackets enclose parentheses and braces enclose brackets in algebraic expressions. Brackets are also used to enclose comments by authors. Directions to publishers written on copy are enclosed in parentheses.

Braces are used when several words are used one above the other with other words. The $\left\{ \begin{array}{l} \text{Academic} \\ \text{Commercial} \end{array} \right\}$ Course.

THE CARET (^). When a word has been omitted or another word or expression is to be inserted the caret is used.

DITTO MARKS (“”). Ditto marks are made by reversing two commas. They are used to denote that whatever is above is repeated on the line just below.

THE INDEX or FIST (. When special attention is to be called to an expression the index is used.

QUOTATION MARKS (“ ”). When the words of another person are repeated they are enclosed in quotation marks. When a quotation is used within a quotation single quotation marks are used. When the author uses words for which he is not to be held responsible he encloses them in quotations.

ABBREVIATIONS and CONTRACTIONS. Titles and degrees are usually abbreviated. Such abbreviations are followed by periods. The days of the month expressions are abbreviated; such as, 2d, 3d, 4th. These expressions should not be followed by periods. The character & is used only in firm names. Contractions such as cont'd and sec'y are not followed by periods but the use of all such contractions should be avoided when possible.

ASTERISK (*). When a certain point is to be elaborated upon and there is insufficient space in the context, or if it would seem out of place there, it is starred and at the bottom another star calls attention to this description.

EXERCISE SIX

LEADERS. Leaders are used as a guide line to the reader from some word or expression to another word or expression. They are also used on programs to run between title and author's name. In tabular work they are used to run from the items to their figures. In this use of leaders the dots must line vertically. Dot leaders should not be used for lines in blanks but close dash leaders which resemble broken lines should be used. See page 64.

"TYPE-HIGH". The space from the bottom of the feet to the top of the face is "type-high" and is 11/12 of an inch. Look at Fig. 4 on page 13.

LEADS. Leads are strips of inferior type metal which may be 1, 2, 3-pts. in thickness, less than type-high and an even number of picas long. They are used in spacing between lines.

SLUGS. Slugs are strips of inferior type metal, either of pica or non-pareil thickness and an even number of picas long. They are used for spacing between lines of type.

REGLETS. Reglets are strips of wood cut in the same proportion as slugs but usually are more commonly used in long lengths than slugs. They are useful when it is desired that the form be made as light as possible.

METAL FURNITURE. A rectangular piece of metal which measures exactly an even number of picas both ways and is less than type-high is metal furniture. Sometimes it is composed of iron and sometimes of inferior type metal. It is used in producing wide space areas.

WOOD FURNITURE. Wood, cut to exact picas in width and length, is called wood furniture. It is used principally in locking up but is sometimes used in spacing areas instead of metal furniture. Both wood reglets and wood furniture are not as good as metal to use in the justification of type because they are usually warped and will swell and shrink with the changes of weather. They are never as accurate as metal furniture.

THE POINT. All type, as well as leads, reglets, and all type materials, are now cast a certain number of points in body thickness and this number determines the name in points; such as, 8-point Caslon, or 14-point Roman, etc. The point is 1/72 of an inch. (See Figure 4 on page 13).

EXERCISE SEVEN

THE PICA. The unit of measurement is the pica. It is 1/6 of an inch or twelve points long.

THE NONPAREIL. The nonpareil is half a pica. All slugs, reglets, metal and wood furniture, are multiples of picas or nonpareils in size—so many picas long and wide.

THE EM. The em is a square measurement and denotes the area of a square space which is a certain number of points each way. There are 6-pt. ems, 8-pt. ems, etc. Any point size may be found in ems.

THE EM-QUAD. This quad is the square space in any point size of type and represents an em of that point. The 12-pt. em quad would be a square pica. See Fig. 1 on page 9.

CAPITALS. Composition set in all caps is not as easily read as caps and lower case and should be avoided when possible. It is appropriate to use all caps on quotation cards and motto cards but the combination of lines set in all caps and other lines in caps and lower case is not harmonious. It is better to select the use of either and stick to it. Script and Old English type should never be used in all caps composition.

ITALICS. Titles of newspapers, magazines, and books, and foreign names and words used in regular straight matter composition are set in Italic. Italic has been used to attract attention in body matter. It is used to make attractive display lines. It loses emphasis when used too profusely.

SMALL CAPS are used for emphasis and they find a use in job composition. They are also used under cuts and other illustrations.

BOLD FACE type is used for emphasis and to attract attention and to set apart that which is intended to be emphasized. It is also used in headings. Sometimes underlining with one-point rule is used for the same purpose.

SCRIPT TYPE. Script type is an imitation of hand writing. It is not used now as much as in former years but still is used on women's cards and on wedding invitations. It is now being supplanted by Old English and similar type faces. Also Gothic and the new shaded gray-tone types are taking its place. There are new faces made which combine the characteristics of Italic and Script which find use in high-class announcement cards for millinery stores and floral exhibits and similar printing. These types require very careful handling as they are very delicate and easily damaged. The appropriate arrangement of them necessitates much study. They are seldom used with borders or printed in more than one color.

EXERCISE EIGHT

CUT-IN NOTE. Type matter which is set with cut-in notes sometimes makes a more intelligible composition. The cut-in note is a key expression of the contents of the paragraph nearest which it is placed.

A KEY EXPRESSION The white space surrounding it should be uniform. This is done by determining the size of the note, then maintaining this size throughout the composition. A bold face type a few points smaller and of the same series is good type to use for the cut-in note. The cut-in note should be placed about three lines down from the beginning of the composition and about that many lines from the end of the paragraph. Sometimes the cut-in note is run in color other than that used in the body composition.

BEST TYPE TO USE The type which is good taste to use is Italic or bold face of the same family as that used in the body composition.

In any case the cut-in note is a very comprehensive method of expression and adds much to the quality of the work. It is used considerably in setting editorials and in high class advertising catalogs. However, it may be properly used in nearly all kinds of printed matter and when correctly arranged gives a much more interesting appearance to the pages.

EXERCISE NINE

SIDE NOTE. The prime sentiment of the subject of the paragraph may be brought to the reader's attention by the use of a side note. This may be done at the beginning of the first line or possibly a few lines down, when it is called *Purpose of Side Note* the *shoulder note*, but when it is used throughout the composition as is usually the case it is put closest to that part of composition to which it refers. It is customary and proper to set the side note in Italic and sometimes in a smaller size of the same series as the body type. It may be run in color.

Setting in the Note There is usually at least an em-quad separation from the type matter. The lines should line on the right when set on the left margin and on the left side in the right hand margin. It is not good practice to make them line on both sides as this often necessitates wide letter-spacing. It is good workmanship to make the side note an even number of quads lengths from the body type, then each line may be preceded with that number of quads, which will obviate the use of furniture along the sides of the lines.

EXERCISE TEN

1 **COMPOSITION WITH FIGURES.** When there are figures used
2 in conjunction with type they should invariably be made to line
3 on the right of the column instead of at the beginning.

4 In printing which contains such composition the largest num-
5 ber is found and used as a basis for all of the other figures.
6 For instance: a number of figures not necessarily in consecutive
7 order but ranging from one to figures of four places the figures
8 line on the right. This is done by placing an en-quad in place of
9 each figure where none should appear. As in the figures which
10 appear at the beginning of these lines an en-quad is placed in
11 front of all of the one-figure numbers and if they were to run up
12 into the hundreds an em-quad would be placed in front of all of
13 the one-figure numbers and an en-quad in front of the two-figure
14 numbers.

15 Sometimes when figures are used for the numbers of a dance
16 program they all may be set flush but it would be safe to follow
17 the rule in all cases. Never use a period after figures unless it is a
18 decimal point. An em-quad may be used to separate the figure
19 from the type at the beginning of the line.

20 When setting columns of figures which represent sums of
21 money the decimal points are always in line vertically.

22 No matter whether the column of figures is at the beginning of
23 the lines or at the end, they always column or are straight on the
24 right-hand side of the figures. Always arrange the figures as they
25 should be for addition. If fractions are used they should be placed
26 to the right of the figures, as on page 63.

27	7 Pairs of stockings.....	\$ 1.50
28	24 Shirts.....	10.00
29	3 Bureaus.....	120.00
30	560 Canes.....	150.00
31	7563 Hats.....	5000.00
32		-----
33	Total.....	\$5281.50

STRAIGHT COMPOSITION WITH INITIAL LETTER

The following exercises, in different ways, show the use of initial letters in composition. Each exercise is self-explanatory and should be carefully studied before it is begun. Pupils should set them in different measures and type and exchange the completed product. It would be well if some good quotations were selected or the idea of the exercise expressed in a practical composition.

EXERCISE ELEVEN

COMPOSITION WITH AN INITIAL LETTER

BEFORE beginning this exercise study it through carefully and also look up examples of the same problem in some good magazines and see how the initial letters are set in. The initial or display letter is always set flush at the beginning of the line. The balance of the word is set in capitals of the type used in the body composition. An en-space usually separates the second and succeeding lines of type from the letter until the height of the letter is reached. At all times the white space should be the same at right of the letter as it is at the bottom.

EXERCISE TWELVE

COMPOSITION SET IN CAPITALS



MUCH THOUGHT MUST BE USED IN SETTING COMPOSITIONS IN CAPITALS SO THAT THEY SHALL APPEAR RIGHT WHEN PRINTED. THEY LOOK BETTER WIDE-SPACED THAN THIN-SPACED. USE EN-QUAD SPACES. TO LESSEN THE NUMBER OF DIVIDED WORDS THEY SHOULD BE SET IN AS WIDE MEASURE AS POSSIBLE. SPACING MUST BE EVEN. THE USE OF SUCH COMPOSITIONS IS LIMITED AS THEY ARE HARD TO READ AND ARE NOT ATTRACTIVE. THIS STYLE OF COMPOSITION IS USED CONSIDERABLY IN MOTTO CARDS AND SHORT SAYINGS AND QUOTATIONS.

EXERCISE THIRTEEN

SHAPE HARMONY

WHEN it is possible for the compositor to set his stick as he pleases for the job or when the layout man can plan a job as he likes, in the case of as small a production as the initial letter job, some thought should be used concerning the shape of the production and the general style of the type. If it is desired that an extended type be used, an extended initial should be used and the type set to such a measure that in a general way it will present an extended or wide appearance. Set the stick to a wide measure—make the composition wider than it is long. Never let the composition come out square unless it is done so for some special purpose. If a condensed letter must be used set the stick narrower and use a condensed initial and make the composition longer than it is wide.

EXERCISE FOURTEEN

HARMONY BETWEEN INITIAL AND THE BODY TYPE

HARMONIOUS combinations are always secured if initial letters and body type of the same family are used together. When the initial letter is not from the same family as the body type it must have the same body mark and be similar in general character. For instance, it would be proper to use a bold face initial letter with a bold face body type of half the size. Do not use an Italic initial with body matter set in upright type. A condensed body type will look well with a condensed initial. An extended initial will harmonize with an extended body type. There are special initial letters which are suitable to be used with certain type, such as; the Caxton initial with Schoeffer and the Della Robbia initial with Della Robbia body type. Old English and German text letters are sometimes used with Roman but they must have the same body mark. Unless a compositor has a thorough understanding of the appropriate combinations to use he should use a letter of the same series as the body type for the initial.

EXERCISE FIFTEEN

SIMPLE TWO-COLOR COMPOSITION

PRINTING this exercise in two colors when only the initial is in color is not a difficult problem. However, this being the simplest exercise which will admit this treatment, it will lead the way to the more complicated two-color compositions. Simply replace the initial letter with quads and spaces which will exactly fill the space. If it is a two-color initial, like the Della Robbia initials, run the color first, then the black form afterwards. The final success of any two-color job may be lost by poor presswork and slovenly feeding. If the work does not register it is worthless and cannot be used. The stock must be perfectly square and every sheet exactly the same size. Guides must be fastened solidly and not moved until the job is finished. Quads glued on the tympan make very reliable gauge pins for this work when done on the platen press. Run the press slowly. It is better to have a few well done sheets than many crooked ones.

COMPOSITION WITH INITIAL LETTER AND
BORDER IN COLOR

ALL of the job is entirely composed, proof-read and arranged, as if it were to be printed at one impression. All matter which is to be printed in the same color is then made up for a separate form. The type taken out must be replaced with quads and spaces or space materials, which, in this form, are to take the place of the type which is to appear in the other color in the other form. Before either form is finally printed, proofs of both should be taken and then, by holding one over the other toward the light it may be seen whether they will register perfectly or not when printed separately. Two-color jobs must be set this way.

COMPOSITION WITH BORDER

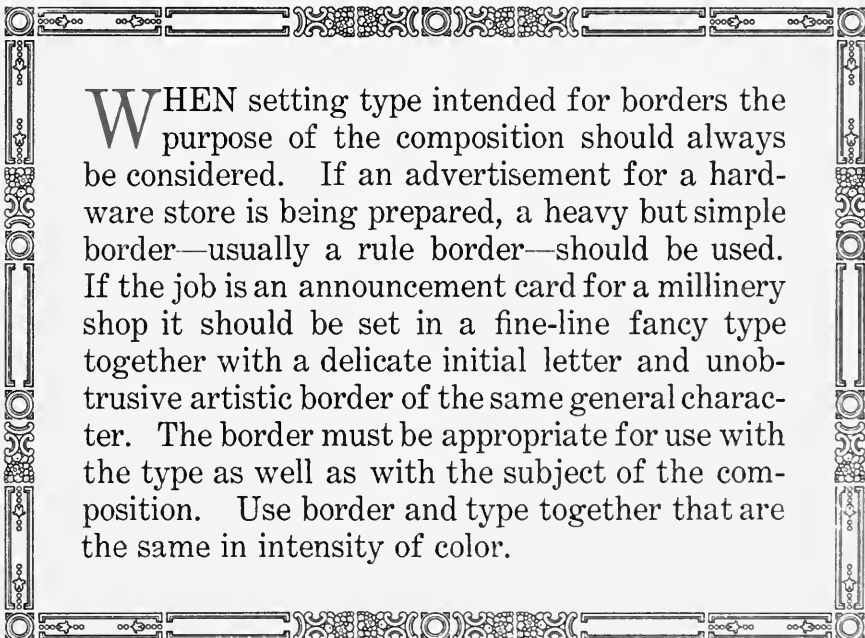
The following compositions using the border are perhaps the most common problems in the print shop. The main point in them is that the type must be set entire first and must measure *exactly* even picas or nonpareils both ways.

The exercises should be set in varying styles using as many different borders as possible. The composition of motto and souvenir cards may be substituted for this exercise as they involve the same work. Allow the pupil to select such work and assemble his own designs in borders and initials after he has done the regular exercise.

In this, as well as in all of the exercises shown, the aim is simplicity. They are simply samples of work for inspiration. All of the materials used are common type foundry stock arranged in as standard a style as possible. In the selection of borders and type, over-decorative materials should be avoided. The subject matter should not be subservient to the type display.

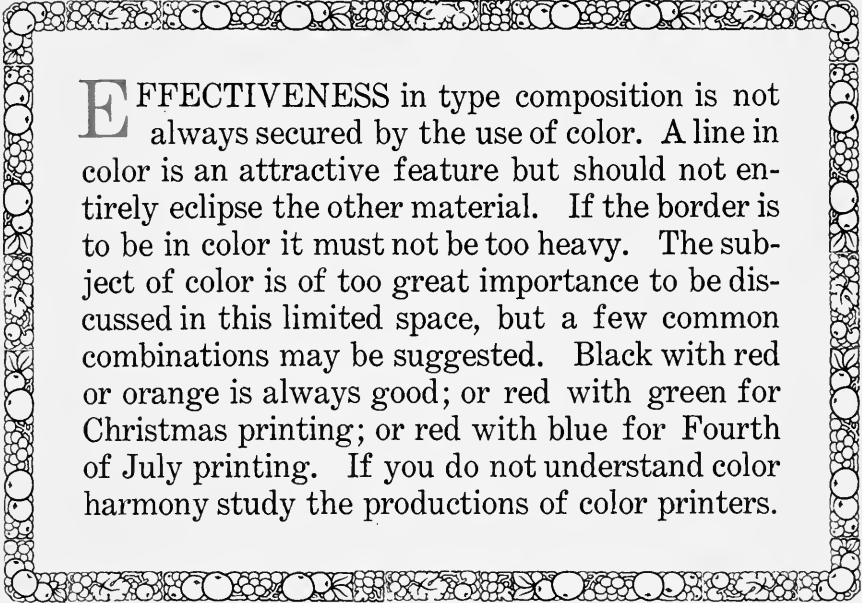
EXERCISE SIXTEEN

RELATION OF TYPE, BORDER AND SUBJECT MATTER

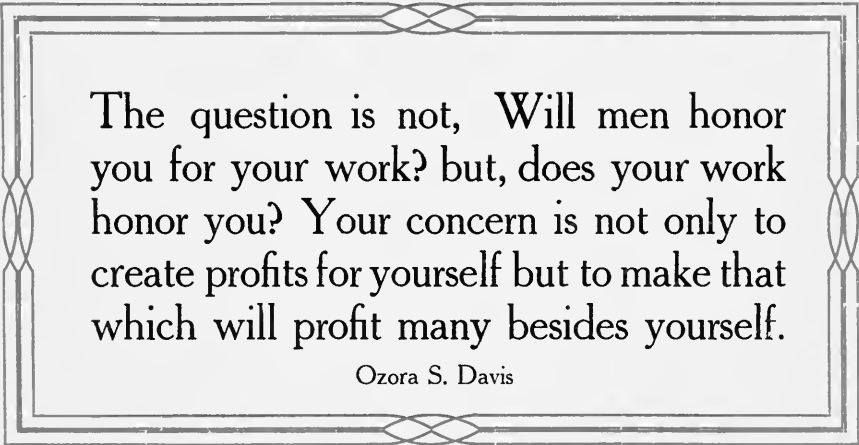


EXERCISE SEVENTEEN

THE USE OF COLOR



EFFECTIVENESS in type composition is not always secured by the use of color. A line in color is an attractive feature but should not entirely eclipse the other material. If the border is to be in color it must not be too heavy. The subject of color is of too great importance to be discussed in this limited space, but a few common combinations may be suggested. Black with red or orange is always good; or red with green for Christmas printing; or red with blue for Fourth of July printing. If you do not understand color harmony study the productions of color printers.



The question is not, Will men honor you for your work? but, does your work honor you? Your concern is not only to create profits for yourself but to make that which will profit many besides yourself.

Ozora S. Davis

The Relation of the Shapes of Type and Space Areas

IN the composition of all bodies of type, special attention must be paid to the characteristics of type; the initial, if one is used; and the general proportions of the production. For example; when the type matter is to assume the ultimate form of a vertical rectangle the initial should be longer than it is wide and the type should be medium or slightly condensed. If a horizontal rectangular shape is desired either a square initial or one a little wider than high may be used with a wide or extended body type. To be more explicit, it would be correct to use Century Oldstyle or Expanded, Della Robbia, Schoeffer, Bodoni, Caslon, Cheltenham Oldstyle or Medium, Roman, Craftsman Oldstyle, and other similar faces, with or without a harmonizing initial, in a rectangular vertical space area. In the other case, a space that is a horizontal rectangle, an extended type should be used, such as; Cheltenham Wide, DeVinne Extended, the Roman, Caslon and the Century Expanded, may also be used unless the space is unusually wide and short. To such composition the border often conforms without much thought, yet, if there is any variation in its characteristics, it must be arranged according to the idea of rectangular space relations. It is evident, after study and comparison of printed specimens, that pleasing and correct printing can be secured only when these principles are applied.

EXERCISE NINETEEN

PERSONAL CARDS

It is considered good form to set personal cards in either Old English text type, script, Gothic light face caps, Engravers' Roman or Roman capitals. All that should appear on a personal card is the name and, if wanted, the address. Unless cards are set in script or Old English they are usually set in all capitals. The pupil should print a card for himself or one that may be ordered, in working out this exercise. A man's card is always rectangular in shape, and considerably longer than it is wide. A woman's card is usually nearer a square shape. (See plate IV on page 35.)

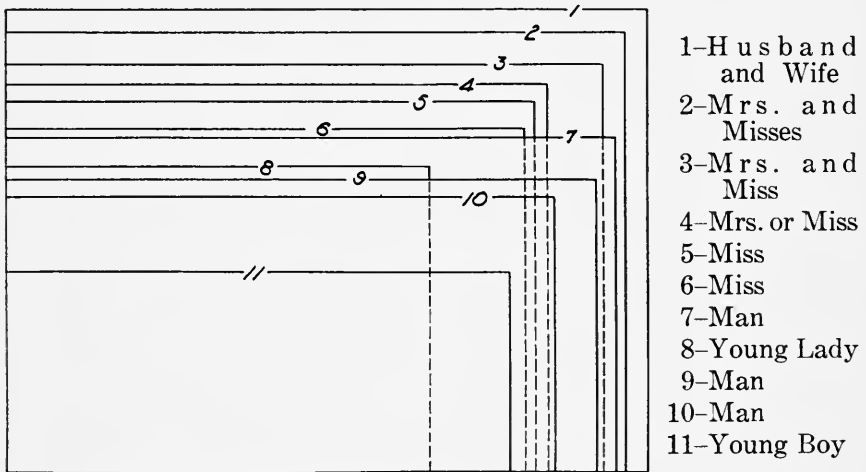


Fig. 10. Sizes that personal cards should be cut.

EXERCISE TWENTY

BUSINESS OR PROFESSIONAL CARDS

In business cards the name is centered on the card. The type should be of the same series throughout the card. Sometimes, however, Old English is used with Roman but it is better not to mix the fonts. The examples on Plate V on page 36 show good forms.

A business card that is to be used by some person, or perhaps to fill an order, should be printed. A practical job is always more interesting.

CHARLES ROY SMITH

JUNE FIFTH
NINETEEN HUNDRED FIFTEEN

MR. AND MRS. EDGAR A. SMITH

FORTY-TWO AVENUE B
SOMERVILLE, PA.

Miss Anderson

MR. J. WALTER BENSON

JOHN HAYWARD EMERSON, M. D.

654 KENDLEWORTH BUILDING
KINGSTON, PA.

Plate IV. Typical personal cards.

RUSSELL'S TAXICAB
BAGGAGE & CAB LINE
OFFICE OAKS HOTEL

OFFICE PHONE 666

BARN PHONE 777

BROWN PRINTING CO.

Printers of
CATALOGS, BOOKLETS
ADVERTISING NOVELTIES

64 Wabash Avenue DENVER, COOL.

CHARLES D. WYCKOFF

REPRESENTING
767 BOULEVARD
N. Y. LIFE INS. CO.
ELIZABETH, N. J.

J. A. DEFANDORF
PRESIDENT

W. J. HARRER
SEC. AND TREASURER

THE DE GOLYER VARNISH WORKS
MANUFACTURERS OF
FINE VARNISHES

TROY, N. Y.

PRESENTED BY J. A. DEFANDORF

EXERCISE TWENTY-ONE

TICKETS

As there are so many ways that a ticket may be set and still be good composition, it is practically impossible to lay down set rules for it. In all composition, it is best not to mix type fonts or to use ornaments profusely. A simple design that is easily read is the best. The examples on Plates VI and VII on pages 38 and 39 will guide. Study them and when the ticket is to be printed a chance to display original or acquired ideas is at hand.

EXERCISE TWENTY-TWO

LETTERHEADS

The standard size for letterheads is 8½" x 11" but the size is often changed to suit the taste or requirements of the customer. In the composition of letterheads considerable ability and judgment is necessary.

The display of the letterhead depends largely upon the business for which it is printed. Professional letterheads are plain and dignified, demanding a plain type, probably Gothic and with little or no display or ornamentation. Letterheads, which are printed for common lines of business, well known to the public, allow more elaboration than the professional letterhead and a simple ornamentation and color may be used. The letterhead should emphasize the firm name rather than the article which is probably carried by many firms of the same financial standing. For theatrical booking agents and for firms introducing a new line of goods a sort of advertising letterhead is often used, printed in elaborate form in panels and colors. A good quality of paper is one of the chief indications of a high standard of business. Good presswork and good type composition make the letterhead a first class production for any customer. See Plate VIII, page 40.

On Plate No. X, page 43, the envelope corner, with reference to style of type and character of composition which would harmonize with the letterhead, is shown next to it. It is good business to have all of the stationery of a firm printed in harmony. Letterheads, envelopes, billheads, and statement-heads, should all have a general sameness in type and composition.

Tennis Match
South Side
 VERSUS
Dickinson
Fri., May 27
 3:30 P. M.
 5c

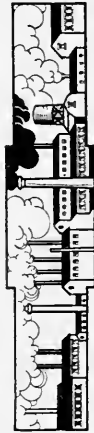
COMMENCEMENT
 OF THE
 Wm. L. Dickinson High School
 JUNE 24, 1915
 ORCHESTRA
 Right F

COMMENCEMENT
 OF THE
WM. L. DICKINSON HIGH SCHOOL
 IN THE SCHOOL AUDITORIUM
 THURSDAY, JUNE 24, 1915
 AT 8 P. M.

Baseball
Union
 Vs.
Rand
 Reservoir Grounds
 June 5 10c



SECOND ANNUAL DANCING PARTY OF
 INDUSTRIAL UNION NO. 6
 IN FACTORY BUILDING HALL
 THURSDAY EVENING, MARCH THE FIRST



AMSTERDAM ORCHESTRA TICKETS 50c

COMMENCEMENT
 OF THE
WM. L. DICKINSON HIGH SCHOOL
 IN THE SCHOOL AUDITORIUM
 THURSDAY, JUNE 24, 1915
 AT 8 P. M.
 STAGE TICKET

BASEBALL

SEATS
10c



LAFAYETTE vs. DICKINSON
Tuesday, May 18, 1915
Reservoir Grounds

Gymnastic Entertainment

Dickinson High School Pupils and Teams of
Columbia, N. Y. U., and Rutgers

In Auditorium

Friday, May 7, 1915, at 7:45 p. m.

Dancing, Music by Hood Benefit Athletic Association Tickets 25c

Fourth Annual Concert of the
Chicago Musical Association,
Handel Hall, Monday Even-
ing, January 20 :: Admission \$1

FOURTH ANNUAL MASQUE
of the Cincinnati Amusement Club
Recreation Hall, Saturday Evening
Orr's Orchestra :: Tickets 50 Cents

Plate VII. Tickets.

SLATER & BINGHAM WHOLESALE CO.

OLD FURNITURE, RUGS, CHINA, CURTAINS
FINE ART GOODS, JEWELRY, BRIC-A-BRAC

CITY TELEPHONE 3577. RURAL TELEPHONE 4999-J



LINEN, WOOLEN AND COTTON GOODS
IMPORTED FRENCH MILLINERY, RIBBONS
THREE SIXTY-TWO CLINTON STREET, CHICAGO

THE ANDERSON PRINTING COMPANY

MANUFACTURERS *of* FINE COMMERCIAL, CATALOG *and* COLOR PRINTING

JOHN ANDERSON, Pres.
WILLIAM ANDERSON, Vice-Pres.
THOMAS ANDERSON, Treasurer



WE MAKE EMBOSSING A
SPECIALTY

EXERCISE TWENTY-THREE

ENVELOPE CORNERS

It would be a good plan to work up a letterhead and envelope corner to match, either for himself or for a relative of the compositor, in order that the work may have a definite purpose. The usefulness of any job in printing makes it of value and the worker usually makes a greater effort to produce a good job.

In setting envelope corners it is customary and in good taste to use the same series of type as that used on the letterhead for the same firm. Both letterhead and envelope corner should have similar typographic characteristics. The more conservative and high class firms use a very simple and refined envelope corner with a good quality of paper. Study the examples which are shown on Plate IX, page 42.

EXERCISE TWENTY-FOUR

BILLHEADS AND STATEMENT-HEADS

As in the case of the distinguishing sameness in features of envelope corners and letterheads, billheads and statement-heads may be similarly set. The job should be set complete with all lines in the same form. Ruled forms should not be used except for cheap work. The only practical difference between a billhead and a statement-head is that the former is usually a wide blank while the latter is long and narrow. The statement is generally an itemized account which requires much space. The bill is a sum-total presentation of the account. The examples on Plate XI, page 44, will aid in producing correct work.

EXERCISE TWENTY-FIVE

LABELS AND TAGS

In the setting of labels a great deal of ingenuity and design have been displayed by printers and layout men. A great many have been hand lettered and printed in harmonious colors. Labels set in type should be governed by the same rules of general composition as all other printed productions. Never mix the fonts.

There seems to be a set form for tags. They should be very legible and bold so that they can be easily read and not easily obliterated. Bold face is always used and no ornamentation. The specimens of labels and tags given on Plate XII, page 45, and Plate XIII, page 46, are typical forms.



MARTIN & SULLIVAN
IRON FOUNDRY
CHICAGO

THE LATIMER IMPORTING CO.

MILLINERY SILKS PICTURES CHINA
LACES PERFUME OLD FURNITURE
ANTIQUES RUGS HINDU POTTERY



526 HARRISON STREET, BALTIMORE, MARYLAND



Fred B. Williams
Florist
306 Boulevard
Duluth, Minn.

Chamberlin, Wilkinson & Co.

Superior Type Founders and Makers of
Printers' Supplies and Office Furniture

Number 680 Williamson Avenue, Amhurst, Indiana

The

Carey Music Company

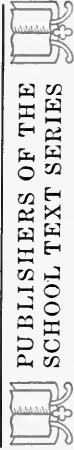


Carey, Illinois

IF NOT CALLED FOR RETURN TO

Superintendent of Schools
NORWALK, CONN.

THE ACADEMY PRINTING CO.



342 STUYVESANT AVENUE, SAN FRANCISCO

EVANSTON BROTHERS

HARDWARE

COMPLETE LINE OF IMPLEMENTS
BOSTON

W. E. AMERSON, M. D.
1808 HONOLAN AVE.
CHICAGO

The
Parker Printing Service
Commercial Printing
Designing, Illustrating
Telephone 361-J

New Type, Borders and
Ornamental Designs

First National Bank Building
Bradford, Pennsylvania []

The
Parker Printing Service
Bradford, Pa.

BENNING CLOTHING COMPANY
365 AMSTERDAM AVE.
NEW YORK

JOHN E. BENNING, PRES.

JAMES W. BENNING, MGR.

BENNING CLOTHING COMPANY
MAKERS OF THE WELL KNOWN
SOCIETY CLOTHES
NEW YORK

Plate X. Letterheads and envelope corners set in the same style.

Athens, Tenn

191

M

Dr. to **William V. Bronson, M. D.**
Union Building

For professional services rendered

R. M. MANTELL

T. A. WOODMAN

MANTELL & WOODMAN

DEALERS IN
GENERAL MERCHANDISE

PHONE 1965, 166-20 MAIN STREET

191

Account of

Adams & Jordan  *Florists* 

SPECIAL DESIGNS FOR
EVERY OCCASION

SALESROOM 342 SOUTH AVENUE
CONSERVATORY IN CATO
LOCAL PHONE 3454

Baltimore

Sold to

of

Plate XI. Top, a professional billhead. Center, a grocer's statement-head. Bottom, a billhead.

From Edwin S. Marsch
Importer :: :: :: *Canton, N. Y.*

for

PROOF

FOR

FROM _____
THE Wm. L. DICKINSON HIGH SCHOOL PRESS
JERSEY CITY, N. J.

The Union Book Co.
Boston, Mass.

for

DEALERS IN RARE OLD BOOKS AND FINE BINDINGS

Proof
for

Read enclosed proof carefully; if it is correct
mark O.K. Please mark all corrections plainly

William A. Hardy Co., Printers
237-239 SANBORN AVENUE, BALTIMORE

FROM
THE WESTBURY MILLING CO.
FLOUR, FEED AND GRAIN
WESTBURY, CONN.

FROM
MOTT & BREWSTER
WHOLESALE GROCERS
PHILADELPHIA

FROM
GORDON, SCHUYLER CO.
BUILDING MATERIALS
CHICAGO

EXERCISE TWENTY-SIX

DANCE ORDERS

In school printing the printshop is often called upon to print dance orders. There is a general sameness about them but there is also an opportunity to show judgment in the style of type face used. It is good taste to use a rather light face type which is easy to read. Sufficient space must be left between lines to admit writing and the lines must be long enough. Do not mix the faces and avoid the use of leaders as much as possible. The specimens shown on Plate XIV, page 48, will guide the printer.

EXERCISE TWENTY-SEVEN

PROGRAMS

The setting of programs is probably one of the most common problems in typography. The best method is to use type, all of the same series, both for the heading and the numbers. However, a heading of Old English with the numbers set in Roman type is good. In setting the numbers it is customary to set the titles of the renditions in caps and small caps and then use leaders to the author's name which is set in *Italic* of the same family. The name of the performer is centered in caps and lower case directly underneath.

A program should be easily read and not too ornamental in character. The use of colors does not usually add to the effectiveness of the job. Simple inconspicuous borders may be used, but good stock and good typography are the main features to be emphasized. Study the illustrations of programs on Plate XV, page 49. Collect specimens from every available source.

EXERCISE TWENTY-EIGHT

MENUS

Simplicity is the keynote for the menu card. The courses are separated by space and sometimes by using a short brass rule. In setting the menu plenty of space should be anticipated at the bottom of the card. These cards are handled considerably so there should be a space to hold them which does not interfere with the printed matter. The different items of the menu are usually centered, but if more than one article is to appear on a line sufficient space is left between that and the next item in order that it may not look crowded. Legible type should be used. See samples on Plates XVI, XVII, pages 50 and 51.

**Musical
and Dance of
Zeta Pi**



May 1, 1915

**Basket Ball Dance
De Witt-Clinton & Dickinson
Saturday Evening
March 1, 1915**

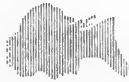
- 1 One Step _____ Tennessee
- 2 Waltz _____ When You're Away
- 3 One Step _____ Syncopated Walk
- 4 One Step _____ Broadway Tipperary
- 5 Fox Trot _____ Bubi Fox Trot
- 6 One Step _____ Night Time Down in Dixie Land
- 7 Waltz _____ True Love Will Find a Way
- 8 One Step _____ The Only Girl
- 9 One Step _____ I Want to go to Tokio
- 10 One Step _____ Don't Take My Darling Boy Away

**Annual Dance of the
Dickinson High School
Alumni Association**



**The Gymnasium
Wednesday, June second
nineteen hundred fifteen**

Plate XIV. Two cover pages for programs or dance cards and a form for dance numbers, having title for one-page program.



THE
SCIENCE CLUB
EXERCISES



HIGH SCHOOL
JUNE 1
1915

PROGRAM

MUSICAL SELECTION Orchestra

READING "The Little Rebel" *Peple*

MISS ANNA MAYNARD

VIOLIN "Liebeslied" *Kreisler*

MISS ELIZABETH BERNARD

RECITATION "Hiawatha" *Longfellow*

MISS EDNA BELL

VOCAL SOLO "Botschaft" *Brahms*

MISS IRENE WHITING

READING "Enoch Arden" *Tennyson*

MISS JENNIE BINGHAM

VIOLIN "Sherzo" *Hayden*

MISS MADELINE WILBUR

READING "Madame Butterfly" *Long*

MISS GRACE AUSTIN

VOCAL SOLO "Kerry Dance" *Malloy*

MISS MARGARET ECKES

MUSICAL SELECTION Orchestra

DANCING

ANNUAL DINNER
OF THE HILLTOP
BOARD

• • •

TOASTS

M. T. ARDEN, *Presiding*

K. A. JENNINGS, *Toastmaster*

"OUR ALMA MATER"

Miss Helen King

"OUR TEACHERS"

Henry Alexander

"CLOUD-BURSTS"

John Owens

"EASY MARKS"

Miss Mary Hayes

"THE VILLAGE SCHOOL"

Anthony Whitlock

"ALUMNI INTEREST"

Miss Hazel Wenz

"OUR HILLTOP DAYS"

James Coleman, Editor

• • •
CENTURY CLUB
JUNE 10, 1915

DINNER

of the
School Men's
Club of Jersey City
at the
Hotel Chelsea
W. 23rd St.
N. Y.



April 22, 1915
6:00 p. m.



M E N U

Little Neck Clams

∴

Celery Gherkins

∴

Consomme Royale

∴

Broiled Bluefish
maitre d'hotel
Pomme chateau

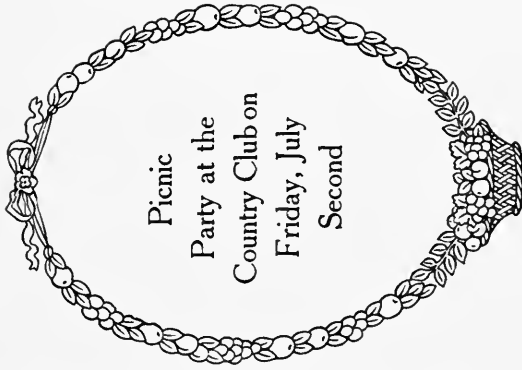
∴

Roast Capon currant jelly
Mashed Potatoes
New Asparagus
cream sauce

∴

Strawberry Ice Cream
Assorted Cakes
Demi Tasse





Picnic
 Party at the
 Country Club on
 Friday, July
 Second

DINNER
 THE SHALOTT INN
 KINGSTON, PA.

- | | | |
|--------------------------|-----------------|------------------|
| Olives | Oyster Cocktail | Wafers |
| Hot Turkey with Dressing | Celery | Peas |
| Cranberry Sauce | Roman Punch | |
| Potatoes | Shrimp Salad | French Bread |
| | Oregon Apples | |
| | Plum Pudding | Nuts and Raisins |
| | Fancy Ice Cream | |
| | Coffee | |
| | | January 5, 1915 |

FIFTH ANNUAL
 DINNER OF THE
 COLLECTORS OF
 BOOKS CLUB OF
 NEW YORK CITY

Plate XVII. Suggestive cover pages for menus and a small dinner card.

EXERCISE TWENTY-NINE

COVER PAGES

To adequately discuss cover page work would fill a large volume. There are, however, a few underlying principles which all good printers follow. One is that cover pages need not be too elaborate to be good. Only one series of type may be used with propriety, and the style must not go outside of one family. The cover page should have an inconspicuous border. Just as a picture needs a picture frame so the cover page needs the finish of a border, but no one would put a wide gilt frame on a small delicately tinted landscape. Great care should be taken not to make the border more prominent and noticeable than the type.

Always make an accurate layout of the cover page and figure the type before it is set, selecting a border that will harmonize. The designs on Plates XVIII, XIX, XX, XXI, pages 53, 54, 55, 56, may be an incentive to good typographic productions.

EXERCISE THIRTY

POSTERS AND PLACARDS

Experience is the best teacher for the compositor of posters and placards. A few things should be emphasized concerning them. Extreme readability is to be thought of first and attractiveness next. A line of color at the top may be sufficient to attract attention and the subsequent lines must be easily and quickly read. If the placard cannot be read quickly enough, so that a person in passing, noticing it in the window, could not tell substantially its contents without stopping, the card does not answer its purpose.

Lines set in all capitals are not quickly read. Capitals and lower case lines are more easily read. Plenty of space should be left between the lines, and the card should not have much ornamentation or too heavy a border. What is said about the border on a cover page will apply to the placard. The title, date, and place, are the main features of a placard and should be emphasized. The other lines should be set in such a way that they will strengthen the important lines. The specimen Plates XXII, XXIII, XXIV, XXV, XXVI will aid the printer. Turn to pages 57, 58, 59, 60, 61.

COMMENCEMENT
OF THE
WILLIAM L. DICKINSON HIGH SCHOOL
1872-1915



AT THE SCHOOL AUDITORIUM
THURSDAY EVENING, JUNE 24, 1915

Lafayette College
of Oratory

The Annual
Debate



Auditorium
Thursday, June 3, 1915
Eight P. M.

STUDY OF LETTERING
AND ILLUMINATION

BY ALEXANDER M. GOODMAN



HUNTER & STRONG BOOK CO.
BOSTON NEW YORK BALTIMORE

Dritt-Jaehrliche Auffuehrung
des
Deutschen Vereins
Unter Mitwirkung
des D. H. S. Orchesters



Am. I. Dickinson High School
Den 23sten April, 1915
um 7:45 Uhr

Free Evening Schools ← 120 Pt

For Males and Females will be opened ← 36 Pt

Monday, October 5, 1914 ← 72 Pt

Sessions on Mondays, Tuesdays, Thursdays, Fridays } 48 Pt
Registration of Pupils 7:30 p. m. Sept. 30, Oct. 1-2 }

COMMERCIAL HIGH SCHOOL ← 24 Pt

In Lincoln High School, Crescent and Harrison Avenues ←

Stenography Typewriting Bookkeeping English Arithmetic German Spanish ← 30 Pt

TECHNICAL AND INDUSTRIAL HIGH SCHOOL ← 24 Pt

In William L. Dickinson High School, Newark and Palisade Avenues ←

Carpentry Machine Shop Work Elementary Mechanics Patternmaking Foundry Work }
Electricity Mechanical Drawing Architectural Drawing Freehand Drawing Printing } 30 Pt
Applied Design Sewing Dressmaking Millinery Cooking }
Algebra Geometry Shop Mathematics ←

ELEMENTARY VOCATIONAL SCHOOL ← 24 Pt

In School No. 32, Coles Street ←

Sewing Woodworking Cooking Machine Shop Work Dressmaking ← 30 Pt

ELEMENTARY EVENING SCHOOLS ←

School No. 8, Sherman Ave.; School No. 9, Mercer and Brunswick Streets; School No. 11, Bergen Square; } 24 Pt
School No. 14, Union Street; School No. 20, Danforth Avenue; School No. 32, Coles Street }

Reading, Writing, Arithmetic, and other elementary branches ←

Special Classes for Foreigners ←

Cooking in Schools Nos. 9, 11, 32 Sewing in Schools Nos. 8, 9, 11, 32 } 36 Pt

By Order of the Board of Education of Jersey City ←

Oliver R. Blanchard, President ← 30 Pt

DRY PRESS

The Musical Event of the Year

Second Annual

Orchestra Concert

By Wm. L. Dickinson H. S. Orchestra assisted by Glee Club

At the Wm. L. Dickinson High School

Tuesday Eve., February 9, '15

Dancing

Music by Hood

Admission 25c

D. H. PRESS

Plate XXIII. Poster set in Schoeffer and Franklin Gothic. "Orchestra Concert" was set in 12¹/₂-point. Reduced about one-half.

BASE BALL



MONTCLAIR
VERSUS
DICKINSON

SAT., JUNE 5, '12

WEST SIDE PARK

Both teams have won a game out of a series of three which makes this game decide the championship between them. You should come

Game called at 3:30

Admission 25 cents

Basket Ball Game This Afternoon

3:30

Friday, Dec. 2

Asbury Park High School vs. Lincoln High School in the Gymnasium. Music for dancing after the game until six-thirty o'clock. All loyal Lincolmites will be there sure

Admission 25c

Basket Ball

Stevens Prep. School

Versus

Dickinson High School

SATURDAY Evening,
December 19, 1914,
at 8:30 p. m., in The Wm.
L. Dickinson High School,
Newark and Palisade Avenues, Jersey
City. Also Stevens Seconds versus Dick-
inson Seconds. First game at 7:30 p. m.
Dancing. Music by Hood. Admission 15c

D. H. S. PRESS

BASKET BALL

Games For February, 1915

Home Game

Friday Afternoon, February 5

Rahway High School

At West Point

Saturday Evening, February 6

West Point Plebs

Home Game

Saturday Evening, February 13

Alumni

At Lakewood

Saturday Evening, February 20

Lakewood High School

Home Game

Wednesday February 23

East Orange High School

At Bridgeport

Saturday Evening, February 27

Bridgeport High School

THE SECOND TEAM PLAYS AT ALL HOME GAMES

DANCING AT EVERY GAME ::::::::::: MUSIC BY HOOD

Admission : Evening Games 15c, Afternoon Games 10c

D.H.S. PRESS

EXERCISE THIRTY-ONE

TABULAR COMPOSITION

In setting columns of figures without rules the numbers should line on the right. The justification of the figures should be accurate and this is done by using only quads in the composition. The use of leads and slugs is not successful as they are seldom accurate and usually are subject to considerable amount of *squeeze* in the lockup. There are modern appliances invented which do away with the use of quads. They are squares of accurate space which admit of easy and accurate justification. These squares find a more common use in rule composition. Tabular composition is tedious work and takes much time. The study of the productions of others will help. Study the following examples:

NUMBER OF EMS CONTAINED IN A POUND OF TYPE

It has been estimated that four square inches of type matter will weigh approximately one pound. The table given below is based on this ratio.

One pound of	5	point will contain	829	ems
" " "	5½	" " "	685	"
" " "	6	" " "	576	"
" " "	7	" " "	423	"
" " "	8	" " "	324	"
" " "	9	" " "	256	"
" " "	10	" " "	207	"
" " "	11	" " "	171	"
" " "	12	" " "	144	"

ROMAN NUMERALS

The proper tabulation of Roman and Arabic numerals is shown below. Notice that they all line on the right.

I.....	1	XI.....	11	XXX.....	30
II.....	2	XII.....	12	XL.....	40
III.....	3	XIII.....	13	L.....	50
IV.....	4	XIV.....	14	LX.....	60
V.....	5	XV.....	15	LXX.....	70
VI.....	6	XVI.....	16	LXXX.....	80
VII.....	7	XVII.....	17	XC.....	90
VIII.....	8	XVIII.....	18	C.....	100
IX.....	9	XIX.....	19	D.....	500
X.....	10	XX.....	20	M.....	1000

AMERICAN POINT SYSTEM

The following table gives the names of the old bodies and their new designation by points:

3½ Point	Brilliant
4½ Point	Diamond
5 Point	Pearl
5½ Point	Agate
6 Point	Nonpareil
7 Point	Minion
8 Point	Brevier
9 Point	Bourgeois
10 Point	Long Primer
11 Point	Small Pica
12 Point	Pica
14 Point	2-line Minion or English
15 Point	3-line Pearl
16 Point	2-line Brevier
18 Point	Great Primer
20 Point	2-line Long Primer or Paragon
22 Point	2-line Small Pica
24 Point	2-line Pica
28 Point	2-line English
30 Point	5-line Nonpareil
32 Point	4-line Brevier
36 Point	2-line Great Primer
40 Point	Double Paragon
42 Point	7-line Nonpareil
44 Point	4-line Small Pica or Canon
48 Point	4-line Pica
54 Point	9-line Nonpareil
60 Point	5-line Pica
72 Point	6-line Pica

In the first method the rules are all broken where they cross and show a poor joint as shown in Figure No. 12. In the second process, as represented by Figure No. 11, the lines are not broken and crossing of the lines is perfect. The latter process is usually the quickest and most satisfactory, although in some cases it cannot be done, as, when tables are printed in books.

APPROXIMATE NUMBER OF WORDS PER LINE																
Size of Type	Length of Line, in Picas															
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
5 -point.....	4½	7	8	9	11											
5½-point.....	4	6	7	8½	10	11½										
6 -point.....	4	5	6	8	9	10	11½									
8 -point.....	3½	5	6	7	8	9	10	11½	12½	14	15					
10 -point.....	3	4	5	6	7	8	9	10	11	12	12½	13½	14½	15½	16½	17½
12 -point.....	2	3	4	4½	5	6	7	7½	8	9	10	10½	11	12	13	13½
14 -point.....	2	3	3½	4	5	6	6½	7	8	9	9	10	11	11½	12	13
18 -point.....	1½	2	3	3½	4	5	5	6	6½	7	7½	8	9	9½	10	10½

Lines containing more words than the lengths shown by the table should be avoided. Sizes above 10-point may be set in wider measures than indicated in table.

LINES OF TYPE PER INCH		
Size of Type	Solid	2-Point Ledged
5-point.....	14	10
5½-point.....	13+	9+
6-point.....	12	9
7-point (rarely used).....	10+	8
8-point.....	9	7+
9-point (rarely used).....	8	6+
10-point.....	7+	6
11-point (rarely used).....	6+	5+
12-point.....	6	6+
14-point.....	5+	4+
18-point.....	4	3+

—Courtesy International Text Book Co.

Fig. 12. Notice the poor joint where the rules cross.

SELECTION OF MEASURES FOR BODY TYPE

In the proper selection of size of type and the measure to which it should be set the printer usually determines his selection by the nature of the copy.

Large type set to a narrow measure causes divided words and lines, is confusing to read, and shows poor taste and craftsmanship. Very small type set to extremely wide measures is exceedingly difficult to read. Six point type may be set up to eighteen picas in width; eight point to twenty-seven picas in width and ten point up to thirty-six picas in width.

Type smaller than six point or larger than ten point is usually undesirable for composition used for books or similar printing.

CALCULATING IRREGULAR TYPE AREAS

RECTANGULAR SPACES are estimated by multiplying the length by the width.

TRIANGULAR SPACES are estimated by multiplying width by the depth just as if it were a square, and then taking half the total.

OVAL AND CIRCULAR SPACES are estimated by multiplying the diameters together and then the result by .7854.

APPROXIMATE NUMBER OF WORDS IN A SQUARE INCH

18-point, leaded, 2-point	5	words	in	a	square	inch
18-point, solid	7	"	"	"	"	"
14-point, solid	11	"	"	"	"	"
12-point, solid	14	"	"	"	"	"
12-point, leaded, 2-point	11	"	"	"	"	"
11-point, solid	17	"	"	"	"	"
11-point, leaded, 2-point	14	"	"	"	"	"
10-point, solid	21	"	"	"	"	"
10-point, leaded, 2-point	16	"	"	"	"	"
8-point, solid	32	"	"	"	"	"
8-point, leaded, 2-point	23	"	"	"	"	"
6-point, solid	47	"	"	"	"	"
6-point, leaded, 2-point	50	"	"	"	"	"

The above table is applicable to only body type of standard widths; such as, Roman, Caslon, and Century. If the matter is to be set in unusual type, such as, a condensed or very extended letter, the number of words in a few square inches of the type to be used may be found and the average found.

EXERCISE THIRTY-THREE

JUSTIFICATION OF CUTS ON PAGES

When an engraving is to be placed in with type, considerable attention must be paid to the manner in which it is done. The accompanying diagrams of pages which face each other will give a fairly comprehensive idea of the good usages in this respect. In the actual setting of the type in conjunction with the cut the nearest number of full picas that the cut actually measures is subtracted from the measure over all that the page is wide and the stick is then set to the width that is left. If there is any discrepancy in the justification of the two it is made up with leads or slugs alongside the cut. It is not good practice to set the type to an uneven number of picas in width. The printing edge of the cut should line with the type. See Plate XXVII. Notice the margins of pages shown on page 68.

EXERCISE THIRTY-FOUR

IMPOSITION

The arrangement of pages of type so that they will print in proper order is imposition.

There are many different ways to place the pages so that they will read in succession when paper is folded. A sure way to get at the layout of the pages is to fold the paper first the way it should be, then mark in the page numbers when paper is folded. Then, when paper is spread out, the location of the pages may be found from the numbers.

It would be an unreliable policy to try to remember the layouts as shown on page 69, as it would be practically impossible. Remember only the four and eight page layouts, but do not forget how to find the layout for any number of pages. Practice this process a few times and it will become firmly fixed in mind.

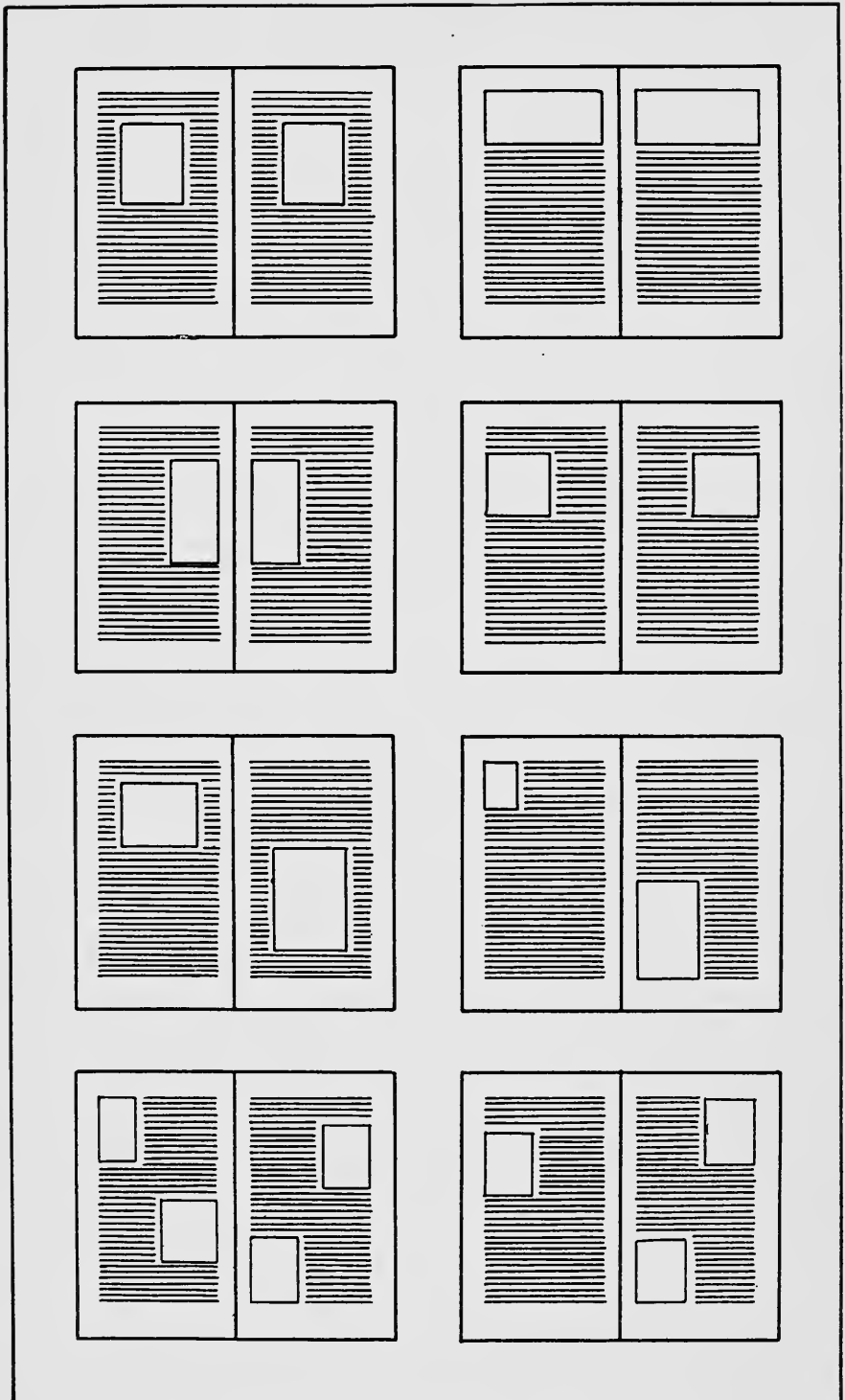
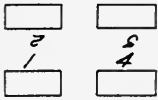


Plate XXVII. Facing pages containing cuts.

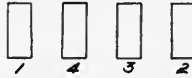
Broad Fours



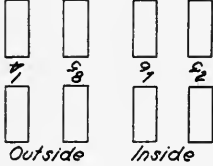
Ordinary Fours



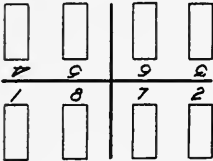
Long Fours



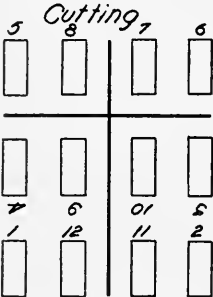
Eights in Two Forms



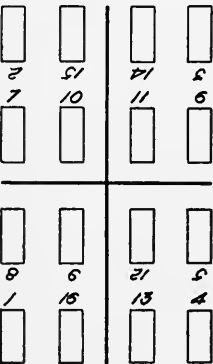
Eights Work and Turn



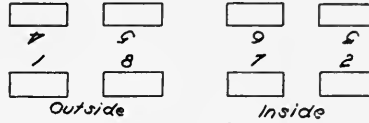
Twelve without Cutting



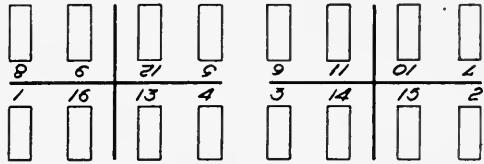
Sixteen Work and Turn



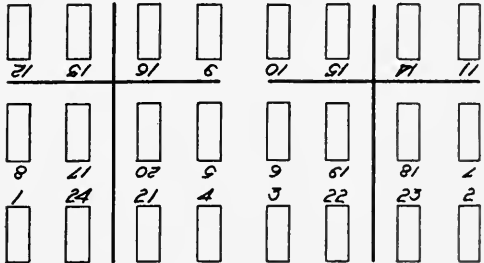
Broad Eights in Two Forms



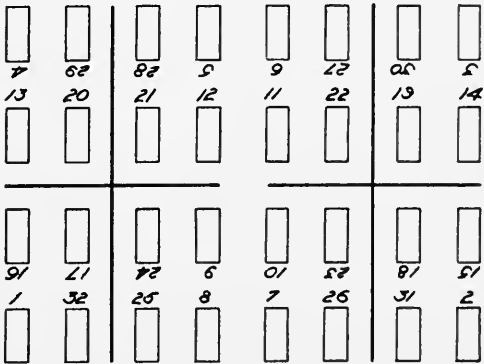
Sixteen Pages in Two Forms



Twenty-four Pages in Two Forms



Thirty-two Pages in Two Forms



QUESTIONS AND PROBLEMS IN PRINTING

The following questions and problems are common in printing and to be able to answer them would be valuable knowledge for the young printer to acquire.

QUESTIONS ON THE TEXT

- 1 How is a line justified?
- 2 What is a descending letter? Low letter?
- 3 Describe letter-spacing.
- 4 What are leads?
- 5 How much should paragraphs be indented?
- 6 How is the stick properly held?
- 7 How is type removed from the stick?
- 8 How is type held in distribution?
- 9 Should the word "into" be divided?
- 10 How should "pi" be distributed?
- 11 How is the point of type determined?
- 12 Of what use is the "nick"?
- 13 When should a comma be used?
- 14 How is the colon properly used?
- 15 What is the use of the dash?
- 16 What is the difference in the use of parentheses, brackets and braces?
- 17 What is the caret?
- 18 What is the difference between contraction and abbreviation?
- 19 When are leaders used?
- 20 What is the difference between galleys and slugs?
- 21 When is metal or wood furniture used?
- 22 Look up examples of the cut-in note, shoulder note, and side note.
- 23 Why should figures line up on the right?
- 24 Should Gothic initial letter be used with Roman type body? Why?
- 25 What common space should be used in all capitals composition?
- 26 How is a two-color type composition made up?
- 27 Should a gentleman's personal card be set in script type?
- 28 Should a woman's card be cut long and narrow?
- 29 What style of type is best to be used on business cards?
- 30 What lines should be prominent on a ticket?
- 31 Should a lawyer's letterhead be printed in red and green ink?

- 32 Should the envelope corner type be Gothic and the letterhead type for the same person be Roman?
- 33 What are the distinguishing features of labels and tags?
- 34 What is the difference between a billhead and a letterhead?
- 35 What could be a distinguishing feature of an organ recital program?
- 36 Why should a menu be set simply?
- 37 What can you say of balance in cover pages? Study the examples.
- 38 Why is the point of balance of a cover page placed above the center?
- 39 What should be striven for in a poster?
- 40 Why is it more satisfactory to set a rule job in two forms?
- 41 Where is the head of the page ordinarily placed in imposition?

COMPUTATIONS IN PRINTING

The following problems are used in the classes in mathematics in the Technical and Industrial Department of the Wm. L. Dickinson High School of Jersey City, and have been found very helpful in supplementing the regular text-book work.

The units of measure of length in the print shop are the *Inch*, the *Pica*, the *Nonpareil*, and the *Point*.

The Inch is used to measure lengths of cards, sheets of paper, etc. The Inch is subdivided into 6 equal parts and each division is called a *Pica*. This unit is used to measure the length of printed matter, e. g., the dimensions of a piece of printed matter are usually expressed as a picas long and b picas wide. Sometimes the width is expressed in picas and the length in inches, e. g., a newspaper column is usually 13 picas wide and 24" long.

The pica is divided into 2 equal parts, each division being called a *Nonpareil*.

The pica is also divided into 12 equal parts and each division is called a *Point*. The point is used to measure the body of metal type, e. g., 16-point type, 24-point type, etc. An 18-point type means the body of the type is 18 points or $18/72''$. Metal type is made in the following number of points: 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48, 60, 72, 84, 96, and 120.

The *Em* is a square whose sides are a number of points. It is used to measure the amount of type in any body of printed matter. The number of ems in any composition corresponds to the number of squares or the area of a rectangle.

The side of an em is 12 points unless otherwise stated, that is, an em is a square pica.

EXERCISES

- 1 How many picas in 2''? 3''? $2\frac{1}{2}$ ''? 4''? $1\frac{1}{4}$ ''? How many nonpareils? How many points?
- 2 How many picas in 144 points? in 360? in 24? in 216? in 100? How many inches? How many nonpareils?
- 3 How many points in the standard em? In an 8-point em? In a 6-point em? In a 10-point em?
- 4 Change the following standard ems to 8-point ems; to 6-point ems; to 10-point ems. 100, 150, 1240, 5000, 2840, 6500, 12400.
- 5 How many ems in a newspaper column 13 picas wide and 24'' long? How many 8-point ems?
- 6 A double newspaper column is $26\frac{1}{2}$ picas wide and 24'' long; how many 8-point ems in it? At 27¢ per M what will be the cost of setting it?
- 7 How many ems in the page of an 8-column newspaper if the page is 21'' long? At 27¢ per M 8-point ems find the cost of setting it.
- 8 The body of the printed matter on the page of a certain book is $19\frac{1}{2}$ picas wide and 32 picas long. How many 10-point ems on the page? 8-point ems? Standard ems? Find the cost of the composition per page at 25¢ per M 8-point ems.
- 9 Find the number of ems on the page of one of your text books, then change your result to 6-point ems, to 8-point ems, to 10-point ems.
- 10 Find the number of lines set solid of 18-point type in 1'', in 4'', in 12'', in 16'', in 24''.
- 11 How many lines set solid of 6-point type per inch? 8-point? 10-point? 24-point? 36-point? 42-point?
- 12 A certain newspaper has 9 lines per inch set solid, what size type does it use?
- 13 A certain book has 7 lines per inch set solid; what point type is used in the composition of this book?
- 14 Determine by measuring the size of the type used in several of your text books.
- 15 A printed sheet of 4 columns $12\frac{1}{2}$ picas wide has a margin of $\frac{3}{4}$ '' each side. If the spaces between the columns is made with 6-point rule, how wide is the sheet in inches?

- 16 Measure your report cards for the following: length, width, number of points in the different spaces, number of ems of printed matter.
- 17 How many standard ems in a column: a picas wide and b inches long? How many 6-point ems? 8-point ems?
- 18 How many lines of 16-point type spaced with 2-point leads can be set in 20"?
- 19 It is required to set solid 72 lines on a page 14" long, allowing 1" at both top and bottom for margin; what point type must be used?
- 20 What size type must be used for problem 2 if the lines are to be spaced with 2-point leads?
- 21 The "Hilltop" announcements placed in each classroom are 11" x 14". How many sheets of cardboard $22\frac{1}{2}$ " x $28\frac{1}{2}$ " are required for 150 of the announcements?
- 22 The Basket Ball placards are printed on cards 9" x 11". How many of these cards can be cut from one sheet of cardboard?
- 23 Find the cost at 25¢ per M 8-point ems of setting the page in problem 2.
- 24 If 10,000 of your schedule cards 4" x $5\frac{7}{8}$ " are ordered, how shall they be set up in order that they may be printed with 2500 impressions of the press? What will be the dimensions of the sheet on which they are printed? How long will it take to print them if the press makes 25 impressions per minute?
- 25 If a boy can print 500 envelopes in 45 min., how long at this rate will it take him to print 2M? 3M? 2500? 1800?
- 26 How long will it take to print the cards $5\frac{1}{2}$ " x 7" that can be cut from 1000 sheets 22" x 28" if the press is making 1200 impressions per hour?
- 27 The page of a certain magazine contains 2 columns each $20\frac{1}{2}$ picas wide, the space between them is 15 points, the margin on the right is 4 picas and on the left $\frac{3}{4}$ ". Find the width of the page in inches.
- 28 The body of the composition in problem 10 is $10\frac{7}{8}$ " long. How many ems on the page? How many 8-point ems?

- 29 If a certain job can be completed in 2 hours when the press is making 1000 impressions per hour, by how many impressions per hour must the speed of the press be increased to complete the job in 1 hr. 30 min.? 1 hr. 45 min.?
- 30 If 1200 R. P. M. of the motor running your press will complete a job in 40 min., what must be the speed of the motor to complete the job in 30 min.? in 45 min.? in 1 hr.?
- 31 How long will it take to print the standard size letterheads that can be cut from 500 sheets of standard size letter paper when the press is making 20 impressions per minute?
- 32 A sheet of cardboard $22\frac{1}{2}'' \times 28\frac{1}{2}''$ is to be cut into tickets $2\frac{1}{2}'' \times 4''$. How many tickets can be cut from the sheet if the width is cut into $2\frac{1}{2}''$ strips and each strip into 4 sections? If the width is cut into $4''$ strips and each strip into $2\frac{1}{2}''$ sections?
- 33 It is required to cut 500 tickets $2\frac{1}{2}'' \times 4''$ from cardboard $22\frac{1}{2}'' \times 28\frac{1}{2}''$. How many sheets of cardboard are needed? If the stock costs \$2.20 per 100 sheets, how much will the tickets cost?
- 34 Your schedule cards are $4'' \times 5\frac{7}{8}''$ and were cut from cardboard $22\frac{1}{2}'' \times 28\frac{1}{2}''$. How many sheets were required to make 10,000 cards? What was the cost at \$2.20 per 100 sheets?
- 35 A card $2\frac{5}{8}'' \times 4\frac{3}{8}''$ was cut from cardboard $22\frac{1}{2}'' \times 28\frac{1}{2}''$. How many of these cards can be cut from 100 sheets?
- 36 How many sheets of cardboard $22'' \times 28''$ will be required to cut 2500 tickets $2'' \times 4''$? At \$2 per 100 sheets what will the tickets cost per 100?
- 37 Standard size letter paper sheets are $17'' \times 22''$. How many sheets will be required to print 2M letterheads $8\frac{1}{2}'' \times 11''$? What will the paper cost at \$1.90 per ream of 500 sheets?
- 38 Find the cost of the paper required to print 3M half-size letterheads $8\frac{1}{2}'' \times 5\frac{1}{2}''$.
- 39 How many tickets $2\frac{5}{8}'' \times 7\frac{1}{8}''$ can be cut from 50 sheets of standard size cardboard $22\frac{1}{2}'' \times 28\frac{1}{2}''$?
- 40 Large sheets $22'' \times 28''$ were cut into smaller sheets on each of which were printed 4 office slips $3'' \times 5''$. How much will the paper for 4M of these slips cost at 6¢ per lb. if a ream (500 large sheets) weighs 40 lbs.?

- 41 How many reams of paper 25" x 38" will be required to cut 20,000 slips 3" x 5"?
- 42 Order calls for 6M "Librarian" slips, 6M "Teacher Name" slips and 8M "Overdue" slips. How shall these be cut up in order that they may be printed with 2M impressions of the press? What will be the dimensions of the sheet on which they are printed if the slips are each $3\frac{1}{2}$ " x 2"? How many sheets (25" x 38"—60 lbs. per ream) will be needed for this order, and what will the paper cost at $5\frac{1}{2}$ ¢ per lb.?
- 43 How many sheets of cardboard 20" x 28" will be required for backs used in padding the slips in problems 42, if 25 slips are put in each pad?
- 44 The cardboard back of a certain calendar is $8\frac{3}{4}$ " x $6\frac{1}{4}$ ". How many sheets of cardboard 22" x 28" will be required for 15,000 calendars?
- 45 How many sheets 7" x 11" can be cut from 5 reams of paper 22" x 28"? What will the sheets cost per 100 if the paper costs $6\frac{1}{4}$ ¢ per lb. and a ream weighs 40 lbs.?
- 46 Common type is 60% lead, 10% tin and 30% antimony. How much of each in 125 lbs. of type?
- 47 The best type is 50% lead, 25% tin and 25% antimony. How many pounds of tin and antimony must be melted with 65 lbs. of lead to make this grade of type?
- 48 How many pounds of type metal can be made from 48 lbs. of antimony and how many pounds of lead and of tin must be used?
- 49 Another grade of type is made by melting 35 lbs. of lead with 5 lbs. of tin, 9 lbs. of antimony and 1 lb. of copper. What percent of the alloy is each of the metals?
- 50 The shaft driven by the motor in your print shop contains a 2" pulley which is belted to a 20" pulley on a counter-shaft. The counter contains a 17-tooth gear that meshes with a 102-tooth gear. Each revolution of the 102-tooth gear makes one impression of the press. When the motor is making 500 R. P. M. how many impressions does the press make? 600 R. P. M.? 900 R. P. M.? 1200 R. P. M.? 1300 R. P. M.?
- 52 How many R. P. M. of the motor will make 1000 impressions of the press per hour? 800? 1200? 1500? 1400? 900?

- 53 For any number of R. P. M. of the motor, what effect upon the impressions per hour of the press would the substitution of 34-tooth gear for the 17-tooth gear have? The substitution of an 85-tooth gear for the 102?
- 54 If instead of the 2'' and the 20'' pulleys we had a 2'' and a 14'' pulley, how would the number of impressions of the press be affected for any given number of R. P. M. of the motor? A 2'' and a 22'' pulley? A 3'' and a 24'' pulley? A 3'' and a 3'' pulley?
- 55 In order that the number of impressions of the press may remain unchanged, what change in the 20'' pulley would have to be made if the 2'' pulley is changed to a 3'' pulley?
- 56 What must be the dimensions of a label for a can 6'' high and 6'' in diameter if the label is to extend exactly one half way around the can and within an inch of the top and $\frac{1}{2}$ '' of the bottom?
- 57 How many such labels can be cut from a sheet 25'' x 38''?
- 58 How many pounds of each of the metals are required to make a 200-lb. font of the best type?

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